

ABSTRACT

c1
Printing on a printing medium with ink and treatment liquid having a function of setting ink, by using an apparatus which includes an ink ejection port for ejecting ink, a treatment liquid ejection port for ejecting treatment liquid, a waste liquid accommodating substance for accommodating waste liquid, a first introducing path for introducing waste ink discharged by recovery operation from the ink ejection port into a first portion of the waste liquid accommodating substance, and a second introducing path for introducing, independently of waste ink, waste treatment liquid discharged by recovery operation from the treatment liquid ejection port into a second portion separated from the first portion of the waste liquid accommodating substance.

IN THE CLAIMS:

Please amend Claim 12 as shown in the attached Appendix. The claims, as pending in the subject application, read as follows:

8. (Not Amended From Previous Version) An ink jet apparatus for printing on a printing medium with ink and treatment liquid having a function of setting ink, said apparatus comprising:

- an ink ejection port for ejecting ink;
- a treatment liquid ejection port for ejecting treatment liquid;
- a waste liquid accommodating substance for accommodating waste liquid;

a first introducing means for introducing waste ink discharged by recovery operation from said ink ejection port into a first portion of said waste liquid accommodating substance; and

a second introducing means for introducing, independently of waste ink, waste treatment liquid discharged by recovery operation from said treatment liquid ejection port into a second portion separated from said first portion of said waste liquid accommodating substance.

9. (Not Amended From Previous Version) An ink jet apparatus as claimed in Claim 8, wherein said waste liquid accommodating substance is formed in a U-shaped configuration.

10. (Not Amended From Previous Version) An ink jet apparatus as claimed in Claim 8 or Claim 9, wherein said treatment liquid contains a cationic material composed of a low molecular weight ingredient and a high molecular weight ingredient, and said ink contains an anionic dye.

11. (Not Amended From Previous Version) An ink jet apparatus as claimed in Claim 8 or Claim 9, wherein said treatment liquid contains a cationic material composed of a low molecular weight ingredient and a high molecular weight ingredient, and said ink contains an anionic dye or at least an anionic compound and a pigment.

92 12. (Amended) An ink jet apparatus as claimed in Claim 8, further comprising an ink jet head which includes, as an energy generating element, an electrothermal transducer for generating thermal energy so as to allow a phenomenon of film boiling to appear in ink.

13. (Not Amended From Previous Version) An ink jet apparatus for printing on a printing medium with a first liquid and a second liquid different from the first liquid, the first liquid and the second liquid reacting to each other, said apparatus comprising:

a first ejection port for ejecting the first liquid;

a second ejection port for ejecting the second liquid; and

a waste liquid accommodating substance for accommodating waste liquid,

wherein said waste liquid accommodating substance receives the first liquid discharged by recovery operation from said first ejection port at a first portion of said waste liquid accommodating substance and receives, independently of the first liquid, the second liquid discharged by recovery operation from said second ejection port at a second portion of said waste liquid accommodating substance separated from said first portion of said waste liquid accommodating substance.

REMARKS

Claims 8 to 13 are pending in the application, with Claim 12 having been amended herein. Claims 8 and 13 are the independent claims. Reconsideration and further examination are respectfully requested.

The abstract was objected to for allegedly containing improper language. Without conceding the propriety of this objection, Applicant submits that the amendment to the abstract herein renders moot the objection. Accordingly, reconsideration and withdrawal of this objection are respectfully requested.

Claim 12 was objected to as being in improper form. Applicant submits that the amendment to Claim 12 herein renders moot this objection, and withdrawal of the objection is respectfully requested.

Claims 8, 10, 11 and 13 were rejected under statutory-type double patenting over issued Claims 1, 9, 10 and 15 of U.S. Patent No. 6,155,666 (Sugimoto); and Claims 8 to 11 and 13 were rejected under statutory-type double patenting over issued Claims 1, 6 to 14 and 16 of U.S. Patent No. 6,252,615 (Yoshino). Reconsideration and withdrawal of these rejections are respectfully requested.

Applicant respectfully submits that the statutory-type double patenting rejection of Claims 8, 10, 11 and 13 over Claims 1, 9, 10 and 15 of Sugimoto is improper and should be withdrawn. In particular, Applicant submits that the aforementioned claims of Sugimoto are not coextensive in scope with the claims of the present invention. Specifically, Claim 1 of Sugimoto has a first recovering means and a second recovering means, which are not present in independent Claim 8 of the present invention. In addition, Claim 1 of Sugimoto has a waste tank which is not found in independent Claim 8 of the present invention. Claim 1 of Sugimoto also has an ink receiver for receiving ink and a liquid receiver for receiving liquid, neither of which elements are claimed in independent Claim 8 of the present invention. Finally, Claim 1 of Sugimoto has a boundary region in the waste tank which is between the ink absorbing portion and the liquid absorbing portion.

Independent Claim 8 of the present invention does not include the limitation of a boundary region between an ink absorbing portion and a liquid absorbing portion.

For the foregoing reasons, independent Claim 1 of Sugimoto is not directed to the same scope of subject matter as independent Claim 8 of the present invention.

Accordingly, because independent Claim 8 of the present invention does not contain the same combination of elements as those of Claim 1 of Sugimoto, Applicant submits that the statutory-type double patenting rejection is improper and should be withdrawn.

With regard to independent Claim 13 of the present invention, Applicant respectfully submits that none of Claims 1, 9, 10 or 15 of Sugimoto is seen to include the same elements and scope as that of independent Claim 13 of the present invention. In particular, independent Claim 13 of the present invention does not include an ink receiver, a liquid receiver or a waste tank as in Claim 1 of Sugimoto. In addition, independent Claim 13 of the present invention does not include a boundary region between an ink absorbing portion and a liquid absorbing portion as in Claim 1 of Sugimoto. Furthermore, independent Claim 13 of the present invention is not seen to have first and second suction means as in Claim 15 of Sugimoto. Accordingly, Applicant submits that neither independent Claim 8 nor independent Claim 13 of the present invention has the same scope as any of claims 1, 9, 10 and 15 of Sugimoto. In other words, Applicant submits that the claims of the present invention could be infringed by an embodiment which would not infringe the claims of Sugimoto. (M.P.E.P. § 804). The statutory-type double patenting rejection is therefore seen to be improper, and should be withdrawn.

With regard to the double patenting rejection over Claims 1, 6 to 14 and 16 of Yoshino, Applicant respectfully submits that none of those claims are seen to be of the same scope as the claims of the present invention. In particular, independent Claim 1 of Yoshino includes first and second recovering means which are not included in independent Claim 8 of the present invention. In addition, allowed Claim 1 of Yoshino includes the limitation that the discharge end of the first waste liquid transferring means is located in a vicinity of the first end of the waste liquid absorbing substance, and that the discharge end of the second waste liquid transferring means is located in a vicinity of the second end of the waste liquid absorbing substance. No such limitation is provided in independent Claim 8 of the present invention for location of discharge ends of transferring means with respect to first and second ends of the waste liquid absorbing substance. Similarly, no such limitations are seen to be provided in independent Claim 13 of the present invention. In a similar fashion, the remaining ones of Claims 6 to 14 of Yoshino include a limitation regarding the first and second ends of the waste liquid absorbing substance being in a vicinity of the discharge ends of the transferring means, in some form or another, which is not seen to be included in either of independent Claims 8 and 13 of the present invention. In addition, independent Claim 16 of Yoshino includes the step of introducing and storing waste ink and waste treatment liquid such that the two do not mix, and thereafter mixing the waste treatment liquid and the waste ink in the waste liquid accommodating substance. Neither independent Claim 8 nor independent Claim 13 of the present invention includes such a limitation regarding mixing of waste treatment liquid and waste ink.

Accordingly, for the foregoing reasons, none of cited Claims 1, 6 to 14 and 16 of Yoshino are seen to be of the same scope as the claims of the present invention. (M.P.E.P. § 804). Applicant therefore submits that the statutory-type double patenting rejection over Yoshino is improper and should be withdrawn. Independent Claims 8 and 13 are therefore believed to be in condition for allowance, and such action is respectfully requested.

The other pending claims in this application are each dependent from the independent claims discussed above and are therefore believed patentable for the same reasons. Because each dependent claim is also deemed to define an additional aspect of the invention, however, the individual consideration of each on its own merits is respectfully requested.

In view of the foregoing amendments and remarks, the entire application is believed to be in condition for allowance, and such action is respectfully requested at the Examiner's earliest convenience.

Applicant's undersigned attorney may be reached in our Costa Mesa, CA office at (714) 540-8700. All correspondence should continue to be directed to our below-listed address.

Respectfully submitted,


Attorney for Applicant

Registration No. 40595

FITZPATRICK, CELLA, HARPER & SCINTO
30 Rockefeller Plaza
New York, New York 10112-2200
Facsimile: (212) 218-2200

CA_MAIN 41835 v 1